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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/263,820	03/08/1999	SATORU CHIKUMA	826.1539/JDH	2271

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EXAMINER	
ABELSON, RONALD B	
ART UNIT	**PAPER NUMBER**
2666	15

DATE MAILED: 08/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/263,820	CHIKUMA ET AL.	
	Examiner	Art Unit	
	Ronald Abelson	2666	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *02 June 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3,4,7-11,13,18,20-22 and 24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *9-11,13,20-22 and 24* is/are allowed.

6)☒ Claim(s) *3,4,7,8 and 18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 March 1999* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 3, 4, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rossmann in view of Soumiya (US 6,094,418).

Regarding claims 3, 4, and 18, Rossmann teaches a method and apparatus for a transmission apparatus (fig. 12 box 500) for use in a radio communication system wherein the transmission apparatus communicates with a reception apparatus (fig. 12 box 700) through a radio channel (fig 12 box 710).

Rossmann teaches a monitoring means for monitoring whether a transmission request for data, designating the transmission apparatus itself as a transmission destination (fig. 12 box 1201, col. 37 lines 26-28), has been issued by said transmission apparatus or the other apparatus connected thereto through a network (fig. 12 box 700). Note, the in the system of Rossmann, the reception apparatus and other apparatus are the same.

Rossmann teaches a generation means for generating and initiating a process (spawns an ANT request processor, col. 37 lines 28-31) in the transmission apparatus to serve as a logical reception destination for the data and generating a buffer (buffer associated with fig. 12 box 1204, note data is stored in box 1210) in correspondence with the process, when said monitoring means has detected the issue of the transmission request (accepts a transmission, col. 37 lines 28-31). The

examiner corresponds the reference's accepting a transmission with the detection of the transmission request of the applicant.

Rossmann teaches a transfer means for transferring the data from a transmission request source to said process in accordance with communications of an interval virtual circuit type (virtual connection, TCP, col. 26 lines 31-36). Note, virtual connections are used in TCP.

Rossmann teaches a transmission means for transmitting the data stored in said buffer, to said other apparatus through the radio channel (col. 39 lines 38-39).

Regarding claim 4, the transmission means transmits transmission designation information to be designated, in accordance with a protocol of an upper layer with respect to layers of said radio channel (TCP, col. 26 lines 31-36). Note, TCP is a higher layer than the radio / physical channel.

Rossmann is silent on a detecting means for detecting a data storing state of said buffer and wherein the transfer means controls a communication speed of the internal virtual circuit type communication in accordance with a detected result of the said detection means.

Soumiya teaches a detecting means for detecting a data storing state of a buffer (amount of storage exceeds any of the threshold values, col. 6 lines 47-48) and controlling a communication speed of a virtual circuit type communication in accordance with a detected result of the said detection means (col. 6 lines 48-53).

Therefore it would have been obvious to one of ordinary skill in the art, having both Rossmann and Soumiya before him/her and with the teachings [a] as shown by Rossmann, a transmission and reception apparatus for communication over a radio channel, and [b] as shown by Soumiya, a detecting means for detecting a data storing state of a buffer and controlling a communication speed of a virtual circuit type communication in accordance with a detected result of the said detection means, to be motivated to modify the system of Rossmann by monitoring the state of the buffer of Rossmann and decreasing the speed of the internal virtual circuit when the buffer is in or nearing a state of congestion. This modification can be performed in software according to the teachings of Soumiya. This would improve the system by helping to prevent congestion / overflow in the buffer.

4. Claims 7 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Rossmann and Soumiya as applied to claims 3 and 4 above, and further in view of Chen (US 5,751,719).

The combination is silent on a specification means for specifying a sequence number of the transmission data at a point of time of the disconnection, when said radio channel has been disconnected.

The combination is silent on restarting the data transmission from said data sequence number specified by said specification means, when said radio channel has been reconnected.

Chen teaches a specification means for specifying a sequence number of the transmission data at a point of time of the disconnection (col. 9 lines 44-50).

Chen teaches restarting the data transmission from said data sequence number specified by said specification means, when the channel has been reconnected (col. 9 lines 44-50).

Therefore it would have been obvious to one of ordinary skill in the art, having both the combination of Rossmann and Soumiya and Chen before him/her and with the teachings [a] as shown by the combination of Rossmann and Soumiya, a transmission and reception apparatus for communication over a radio channel,

and [b] as shown by Chen, a specification means for specifying a sequence number of the transmission data at a point of time of the disconnection and restarting the data transmission from said data sequence number specified by said specification means, when the channel has been reconnected, to be motivated to modify the system of the combination of Rossmann and Soumiya by transmitting the data from the transmitter (Rossmann: fig. 12 box 500) to the receiver (Rossmann: fig. 12 box 700) with sequence numbers and following the algorithm of Chen to obtain the current data sequence to restart transmission in the case of a disconnection. This modification can be performed in software. This would improve the system by allowing the system to accurately know where in the data sequence to restart transmission after a disconnection.

Allowable Subject Matter

5. Claims 9-11, 13, 20-22, and 24 allowed.

Regarding claims 9-11, 13, 20-22, and 24, Rossmann teaches a monitoring means for monitoring whether a transmission request for data, designating the transmission apparatus itself as a transmission destination (fig. 12 box 1201, col. 37 lines 26-28), has been issued by said transmission apparatus or the other apparatus connected thereto through a network (fig. 12 box 700).

Note, the in the system of Rossmann, the reception apparatus and other apparatus are the same.

Rossmann teaches a generation means for generating and initiating a process (spawns an ANT request processor, col. 37 lines 28-31) in the transmission apparatus to serve as a logical reception destination for the data and generating a buffer (buffer associated with fig. 12 box 1204, note data is stored in box 1210) in correspondence with the process, when said monitoring means has detected the issue of the transmission request (accepts a transmission, col. 37 lines 28-31). The examiner corresponds the reference's accepting a transmission with the detection of the transmission request of the applicant.

Rossmann teaches a transfer means for transferring the data from a transmission request source to said process in accordance with communications of an interval virtual circuit type (virtual connection, TCP, col. 26 lines 31-36). Note, virtual connections are used in TCP.

Rossmann teaches a transmission means for transmitting the data stored in said buffer, to said other apparatus through the radio channel (col. 39 lines 38-39).

Regarding claims 9 and 20, although Rossmann teaches generating a buffer, the reference does not teach nor suggest

generating a plurality of buffers nor the prioritisation of the plurality of buffers.

Regarding claim 10 and 21, although Rossmann teaches generating a buffer, the reference does not teach nor suggest generating a plurality of buffers nor transmitting data while setting transmission cycles of the data stored in the buffers of higher priority levels.

Regarding claims 11, 13, 22, and 24, although Rossmann teaches a cache memory (fig. 12 box 716), nothing in the prior art of the record teaches or fairly suggests the cache memory stores data sent back in response to the data transmission, a search means for searching as to whether or not data requested by the transmission request source is registered in the cache memory, and when the registration of the requested data in the cache memory has been detected by the search means, the process transfers the requested data in the cache memory, to the transmission request source through the transfer means, in combination with all the other limitations listed in the claim.

Response to Arguments

6. In response to an updated search, the indicated allowability of claims 3, 4, 7, 8, and 18 has been withdrawn.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald Abelson whose telephone number is (703) 306-5622. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on (703) 308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RA

Ronald Abelson
Examiner
Art Unit 2666

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8/21/04

Seema S. Rao 8/23/04
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